1965 Index to Feature Articles

Volumes 61 & 62 Jan-Dec 1965

ALUMINUM AND ITS ALLOYS

Aerospace materials: Today and to-

Aerospace materials: Ioday and to-morrow—Aug, p 97 Aluminum structures joined by flux-less brazing—Mar, p 122 Coatings and finishes for aluminum,

New—Apr, p 112

Heat emittance properties of materials—Mar, p 112

High energy rate forming of sheet

metals—Aug, p 108 Materials for deep submergence vessels—Where do we stand?—

Sept, p 99
Mechanical tubing—Sept, p 121
Stress corrosion—Causes and cures
—Apr, p 102 Whisker composites: Where do they

stand today?—June, p 112 Wrought aluminum and its alloys— June, p 117

BERYLLIUM

Beryllium extrusions now available in complex shapes—Jan, p 96 Heat emittance properties of materials—Mar, p 112 Hot isostatic pressing improves powder metallurgy parts—May,

p 92 Solar module—May, p 120 Solid state welding of reactive and refractory metals—Apr, p 106

CARBON, GRAPHITE

Aerospace materials: Today and to-morrow—Aug, p 97 Graphite refractory resists 3400 F

Feb, p 106 ot isostatic pressing improves powder metallurgy parts—May, p 92

CASTINGS

Cast iron for impact resistance, Which?—Oct, p 100

CERAMICS, GLASS

Accurate glass coatings applied from transfer tapes—Apr, p 110 Aerospace materials: Today and to-

Aerospace materials: Today and to-morrow—Aug, p 97
Deep-sea vehicle—May, p 114
Filament winding: Its promise for industrial and consumer products
—Apr, p 117
Fluid amplifier—May, p 108
Glass-ceramics how they perform— Where to use them—July, p 95
Hot isostatic pressing improves powder metallurgy parts—May, p 92

Infrared materials-Detectors, analysts and monitors—Oct. p 108
Joining ceramics and glass to
metals—Jan, 0 106
Materials for deep submergence
vessels—Where do we stand?—
Sept. p 99

Sept. p 99

COATINGS, FINISHES

Accurate glass coatings applied from transfer tapes—Apr, p 110 Aerospace materials: Today and tomorrow—Aug, p 97

Anodizing protects and decorates zinc surfaces—Oct, p 116

Coatings and finishes for aluminum, New—Apr, p 112 Corrosion resistant fastener—May, p 127

Electroplated coatings—Mar, p 127 Fluorocarbon coatings resist corro-sion, heat and friction—Sept, p

112
Ion sputtered coatings provide tailored properties—Nov, 102
Neoprene dip mouldings and coatings, Low cost—June, p 93
New uses for terne coated steel—Feb, p 104
Organosol coatings for nonmetallic products—lune, p 104

products—June, p 104
Polyethylene coatings for metals—
Jan, p 92

COMPOSITES

Aerospace materials: Today and to-morrow—Aug, p 97 Computer speeds selection of ther-mostat metals—Mar, p 115 Filament winding: Its promise for

industrial and consumer products

—Apr, p 117

Glass fiber reinforced rubber—May,

p 104

How to reinforce holes in filament wound structures—Feb, p 108 Whisker composites: Where do they stand today?—June, p 112

COPPER AND ITS ALLOYS

Mechanical tubing—Sept, p 121 Stress corrosion—Causes and cures —Apr, p 102

CORROSION RESISTANT PROP-ERTIES AND MATERIALS

Fluorocarbon coatings resist cor-rosion, heat and friction—Sept, p 112 Mechanical tubing-Sept, p 121 Plastics resist weathering, How-

ECTRICAL AND ELECTRONIC PROPERTIES AND MATERIALS

Accurate glass coatings applied from transfer tapes—Apr, p 110 Infrared materials—Detectors, ana-Infrared materials—Detectors, ana-lysts and monitors—Oct. p 108 Joining ceramics and glass to metals—Jan, p 106 Solid state welding of reactive and refractory metals—Apr, p 106

EXTRUSIONS

Oct, p 97

Beryllium extrusions now available in complex shapes—Jan, p 96 ose tolerance titanium extrusions Close tolerance titanium extrusions
—May, p 106
Ultra high pressure—A powerful
metalworking tool—June, p 96

FABRICS, FELTS, FIBERS

Metal fabrics for high temperatures -Jan, p 102

FORGINGS AND FORMING

High energy rate forming of sheet metals—Aug, p 108
Mechanical tubing—Sept, p 121
Photoetching products thin, close tolerance metal parts—Mar, p Plastics thermoforming is versatile, fast and economical—June, p 106 Refractory metals can be plated and electroformed—July, p 93 Steel forgings, A guide to—Apr, p

tra high pressure—A powerful metalworking tool—June, p 96

GENERAL

Coding system for materials specifications, How to develop a simple
—Sept, p 106

— Sept, p 106 Computer speeds handling of mate-rials data—Oct, p 112 Computer speeds selection of ther-mostat metals—Mar, p 115 Designing for fracture toughness— Nov. p 3

Nov, p 91

How materials are selected—July, p 109

HEAT TREATMENT

Ultra high strength steels, Getting the most out of-Mar, p 104

GH TEMPERATURE PROPER-TIES AND MATERIALS

Aerospace materials: Today and to-

morrow—Aug, p 97
Fluorocarbon coatings resist corrosion, heat and friction—Sept, p

Graphite refractory resists 3400 F —Feb, p 106 Heat emittance properties of mate-

Heat emittance properties of materials—Mar, p 112
The heat environment and how it affects materials—Dec, p 113
High energy rate forming of sheet metals—Aug, p 108
Materials heat resistance and thermal properties data—Dec, p 116
Mechanical tubing—Sept, p 121
Metal fabrics for high temperatures
—Jan, p 102
Precision rolled shapes for metal products—July, p 87

products—July, p 87
Refractory metals can be plated and electroformed—July, p 93
Refractory metals find new uses in

industrial products—Aug, p 114 Solid state welding of reactive and refractory metals—Apr, p 106
Testing and evaluating the thermal characteristics of materials—Dec,

Ways to protect materials from heat—Dec, p 100 Whisker composites: Where do they stand today?—June, p 112

IRONS

Cast iron for impact resistance, Which?—Oct, p 100 Whisker composites: Where do they stand today?-June, p 112

JOINING AND FASTENING

Aerospace materials: Today and tomorrow—Aug, p 97
Aluminum structures joined by flux-less brazing—Mar, p 122
Corrosion resistant fastener—May, p 127 Joining ceramics and glass to metals—Jan, p 106 Laser welding—Where it stands to-day—Feb, p 92

1965 Index (continued)

Solid state welding of reactive and refractory metals—Apr, p 106

MACHINING/METAL REMOVAL

Photoetching produces thin, close tolerance metal parts-Mar, p 124

hen to make plastic parts by machining-Aug, p 104

MAGNESIUM AND ITS ALLOYS

Magnesium-lithium alloys combine lightness and stiffness—Nov, p 98 Mechanical tubing—Sept, p 121 Stress corrosion-Causes and cures -Apr, p 102

MOLDING, MOLDINGS

Neoprene dip moldings and coat-ings, Low cost-June, p 93

Polyesters for laminates and mold-ings, New—May, p 98 Rigid vinyl injection moldings now practical—Jan, p 83

Seven ways to improve plastic mold-ings-June, p 100

MOLYBDENUM AND ITS ALLOYS

Refractory metals can be plated and electroformed—July, p 93 Refractory metals find new uses in industrial products—Aug, p 114 Solid state welding of reactive and refractory metals—Apr, p 106

NICKEL AND ITS ALLOYS

Aircraft fuel gage tank probe-May, p 112

Mechanical tubing—Sept, p 121 Metal fabrics for high temperatures -Jan, p 102

New constant modulus nickel-ironcobalt alloys-Nov, p 105

Precision rolled shapes for metal products—July, p 87

Stress corrosion-Causes and cures -Apr, p 102

Whisker composites: Where do they stand today?—June, p 112

NONFERROUS METALS (not else-where classified)

Aerospace materials: Today and tomorrow-Aug, p 97

Die inserts-May, p 123

Hot isostatic pressing improves powder metallurgy parts-May, improves D 92

Microminiature circuit encapsulation -May, p 121

Solid state welding of reactive and refractory metals—Apr, p 106 Stress corrosion—Causes and cures -Apr, p 102

NONMETALLICS (not elsewhere classified)

Color TV picture tube-May, p 124 Infrared materials-Detectors, analysts and monitors-Oct, p 108 Portable phonograph cabinet-May, p 126

NUCLEAR PROPERTIES AND MATERIALS

Solid state welding of reactive and refractory metals-Apr, p 106

PLASTICS-REINFORCED

Aerospace materials: Today and tomorrow—Aug, p 97
Filament winding: Its promise for industrial and consumer products

—Apr, p 117 How to reinforce holes in filament wound structures—Feb, p 108 Long-term performance of plastics

Nov, p 113 Materials for deep submergence vessels—Where do we stand?— Sept, p 99 Plastics resist weathering, How— Oct, p 97

Polyesters for laminates and mold-ings, New—May, p 98 Reinforced thermoplastics, How to

select—Mar, p 99 Water fire extinguisher—May, p

PLASTICS-THERMOPLASTICS

Aerosol bottle-May, p 111

Ball valve—May, p 129 Clock assembly mount—May, p 128 Fluorocarbon coatings resist corro-sion, heat and friction—Sept, p

Heat shrinkable tubing and mold-ings-Feb, p 100

Instrument recording pen-May, p

Long-term performance of plastics
-Nov, p 113 Olefin copolymers-Versatile plastic

"alloys"—July, p 101 Organosol coatings for n products—June, p 104

PTFE dry-film lubricants reduce friction and wear--Feb, p 97

Plastic films as engineering materials-Oct, p 102

Plastics resist weathering, How-

Oct, p 97 Plastics thermoforming is versatile, fast and economical--June, p 106 Polyethylene coatings for metals-Jan, p 92

Polysulfone thermoplastic stands up at 300+ F, New-May, p 89 Quick-disconnect fastener-May, p

130 Rigid vinyl injection moldings now practical—Jan, p 83

Seven ways to improve plastic mold-ings-June, p 100

Stress-cracking in plastics, How to minimize—Sept, p 116 When to make plastic parts by machining—Aug, p 104

PLASTICS-THERMOSETS

Epoxy plastics-Jan, p 111

Epoxy plastics—Jan, p 111 Flexible power transmission coup-ling—May, p 125 Heat shrinkable tubing and mold-ings—Feb, p 100 Long-term performance of plastics

Nov. p 113
Polyesters for laminates and moldings, New—May, p 98

POWDER METALLURGY

Heat shrinkable tubing and mold-ings—Feb, p 100 Hot isostatic pressing improves powder metallurgy parts—May, p

RUBBER

Aerospace materials: Today and to-morrow—Aug, p 97 Elastomeric sealants—Where and how to use them—Feb, p 87 Fluorocarbon coatings resist corro-sion, heat and friction—Sept, p 112

Glass fiber reinforced rubber-May, p 104

Improved silicone rubbers now avail-able—Mar, p 118 Low temperature polyacrylate elas-tomers—Jan, p 100 Neoprene dip moldings and coat-

ings, Low cost—June, p 93
Specialty elastomers—Aug, p 119
Styrene-butadiene rubbers with improved properties—Jan, p 98

STAINLESS AND HEAT RESIST-ANT STEELS

Aerospace materials: Today and to-morrow—Aug, p 97
High energy rate forming of sheet metals—Aug, p 108
Mechanical tubing—Sept, p 121
Metal fabrics for high temperatures —Jan, p 102
Precision rolled shapes for metal products—July, p 87
Stress corrosion—Causes and cures

Stress corrosion—Causes and cures
—Apr, p 102
Ultra high strength steels, Getting
the most out of —Mar, p 104
Vacuum melted steels—Their properties and uses—Jan, p 86

Aerospace materials: Today and to-morrow—Aug, p 97 Carbon steels are strong and tough, New—Sept, p 109 High energy rate forming of sheet metals—Aug, p 108 High strength low alloy steels—Feb,

Mechanical tubing—Sept, p 121 New uses for terne coated steel— Feb, p 104

Precision rolled shapes for metal products—July, p 87 Steel forgings, A gulde to—Apr, p

Stress corrosion-Causes and cures

—Apr, p 102

Ultra high strength steels, Getting the most out of—Mar, p 104

Vacuum melted steels—Their prop-

erties and uses-Jan, p 86

TESTING AND INSPECTION

Heat emittance properties of mate-

rials—Mar, p 112
Infrared materials—Detectors, analysts and monitors—Oct, p 108
Stress-cracking in plastics, How to minimize—Sept, p 116

TITANIUM AND ITS ALLOYS

Aerospace materials: Today and tomorrow—Aug, p 97 Close tolerance titanium extrusions

—May, p 106
High energy rate forming of sheet metals—Aug, p 108
Materials for deep submergence vessels—Where do we stand?—

vessels—Where do we stand:— Sept, p 99 Mechanical tubing—Sept, p 121 Stress corrosion—Causes and cures —Apr, p 102 Titanium and its alloys—Oct, p 123

TURING

Mechanical tubing-Sept, p 121

WOOD

Materials for deep submergence— Where do we stand?—Sept, p 99 Wood composition board—A useful engineering material—Nov, p 108

ZINC

Anodizing protects and decorates zinc surfaces—Oct, p 116

Authors

Acker, Roy M., Solar Module-May,

p 120 Albom, M. J., Solid state welding

of reactive and refractory metals
—Apr, p 106
Anderson, Dr. J. E., Laser welding
—Where it stands today—Feb, p

Baker, Edward C., Microminiature circuit encapsulation—May, p 121 Bauman, Merritt R., Water fire ex-

tinguisher—May, p 118
Bell, J. K., New constant modulus
nickel-iron-cobalt alloys—Nov, p 105

105
Bobrowsky, Alfred, Ultra high pressure—A powerful metalworking
tool—June, p 96
Bomberger, J. C., Carbon steels are
strong and tough, New—Sept, p

109
Borcina, D. M., New uses for terne coated steel—Feb, p 104
Bowden, E. B., Plastics resist weathering, How—Oct, p 97
Bowditch, H. L., Instrument recording

ing pen—May, p 116
Brandel, W. W., Aluminum structures joined by fluxless brazing -Mar, p 122 Broutman, L. J., Stress-cracking in

plastics, How to minimize—Sept,

p 116 rown, W. R., Fluid amplifier—

Brown, W. K., Fluid ampliffer— May, p 108 Burroughs, J. E., Ways to protect materials from heat—Dec. p 100 Busche, Michael G., Wood composi-tion board—A useful engineering material—Nov, p 108

Carlyon, George, When to make plastic parts by machining—Aug, 104

Chottiner, J., Plastics resist weath-

ering, How—Oct, p 97
Christiana, John, Close tolerance titanium extrusions—May, p 106
Clauser, Henry R., How materials
are selected—July, p 109
Cousins, Sydne, Quick-disconnect

Cousins, Sydne, Quick fastener—May, p 130

Dalton, A. Stanley, Corrosion resist-ant fastener—May, p 127 ant fastener—May, p 127
Davis, R. A., Designing for fracture toughness—Nov, p 91

Eiselstein, H. L., New constant modulus nickel-iron-cobalt alloys

-Nov. p 105 nrich, Barry R., Glass-ceramics; How they perform, where to use Emrich,

them—July, p 95
Ettre, Kitty, Accurate glass coatings applied from transfer tapes Apr, p 110

Fabian, Robert J., How materials are selected—July, p 109
Filepp, Leslie, Flexible power transmission coupling—May, p 125
Fogelman, E. L., Carbon steels are strong and tough, New—Sept, p

Gallant, A. L., Instrument recording pen-May, p 116

Hall, A. M., Ultra high strength steels, Getting the most out of-

Mar, p 104

Hamaker, Jr., Dr. J. C., Vacuum melted steels—Their properties and uses—Jan, p 86

Hauck, Jack E.,

auck, Jack E.,
Aerospace materials: Today and
tomorrow—Aug, p 97
Epoxy plastics—Feb, p 111
Filament winding: Its promise for

industrial and consumer products—Apr, p 117 Glass fiber reinforced rubber-May, p 104

Heat shrinkable tubing and mold-

ings—Feb, p 100
Improved silicone rubbers now available—Mar, p 118
Long-term performance of plas-

tics—Nov, p 113

Low temperature polyacrylate elastomers—Jan, p 100

Materials heat resistance and thermal properties data—Dec,

p 115

p 115
Olefin copolymers—Versatile plastic "alloys"—July, p 101
Plastic films as engineering materials—Oct, p 102
Plastics thermoforming is versatile, fast and economical—

tile, fast and economical— June, p 106 Polyesters for laminates and moldings, New—May, p 98 Polysulfone thermoplastic stands up at 300+ F, New—May, p

89
Reinforced thermoplastics, How to select—Mar, p 99
Rigid vinyl injection moldings now practical—Feb, p 83
Specialty elastomers—Aug, p 119
Styrene-butadiene rubbers with improved properties—Jan, p 98
Hicks, John S., Solar module—May, a 220

p 120 Hodge, E. S., Hot isostatic pressing improves powder metallurgy parts

improves powder interactory pars—May, p 92
Howe, Jr., John S., Die inserts—May, p 123
Howeth, M. S., Ways to protect materials from heat—Dec. p 100

Jackson, J. E., Laser welding— Where it stands today—Feb, p 92 Jeff, William C., Organosol coat-ings for nonmetallic products—

June, p. 104

Johnsen, C. F., Instrument recording pen—May, p. 116

Johnson, A. R., Vacuum melted steels—Their properties and uses

—Feb, p. 86

Karsay, Stephen I., Cast Iron for impact resistance, Which?—Oct, p 101
Kaufman, Sr., R. O., Precision rolled shapes for metal products—July, p 87
Keeler, James H., Refractory metals find new uses in industrial products—Aug, p 114
Krawitz, M., Color TV/picture tube—May, p 124
Kutzer, L. G., Joining ceramics and glass to metals—Feb, p 106

Long, Carl E., Aerosoi bottle-May,

Martin, Geoffrey, Aluminum struc-tures joined by fluxless brazing— Mar, p 122 McDermott, John J., Seven ways to

mprove plastic moldings-June, 100

p 100
Miller, G. D., Heat emittance properties of materials—Mar, p 112
Mock, John A., How materials are selected, July, p 109
Moore, W. N., Neoprene dip moldings and coatings, Low cost—June, p 93
Morgan, H. S., Photoetching produces thin, close tolerance metal parts—Mar, p 124
Murphy, T. P., Reinforced thermoplastics, How to select—Mar, p 99

Olevitch, Albert, Corrosion resistant

fastener—May, p 127 Ornstein, J. L., Computer speeds selection of thermostat metals— Mar, p 115

Parady, V., How to reinforce holes in filament wound structures—

Feb, p 108

Pawlikowski, L. J., Portable phonograph cabinet—May, p 126

Quist, W. E., Designing for fracture toughness—Nov, p 91

Radtke, Schrade F., Anodizing pro-tects and decorates zinc surfaces

—Oct, p 116 gazio, A. W., Clock assembly mount—May, p 128

Sanctuary, Robert E., Ball valve-

Sanctuary, Robert E., Ball valve— May, p. 129
Sargent, Raymond W., Aircraft fuel gage tank probe—May, p. 112
Seeman, James M., Ion sputtered coatings provide tailored proper-tions. Nav. p. 102

coatings provide tailored proper-ties—Nov, p 102 Siergiej, J. M., Beryllium extru-sions now available in complex shapes—Feb, p 96 Stachiw, Dr. Jerry D., Deep-sea ve-hicle—May, p 114 Sterne, R. H., Carbon steels are

strong and tough, New-Sept, p 109

Stock, A. J., PTFE dry-film lubricants reduce friction and wear-

Feb, p 97
iss, Henry, Stress corrosionCauses and cures—Apr, p 102

Terford, C. R., Coding system for materials specifications, How to develop a simple—Sept, p 106
Thornton, H. R., Ways to protect materials from heat—Dec, p 100
Trimble, E. F., Computer speeds handling of materials data—Oct, p. 112

p 112

Vaccari, John A.

accari, John A.,
Aerospace Materials: Today and
tomorrow—Aug, p 97
High energy rate forming of
sheet metals—Aug, p 108
High strength low alloy steels— Feb, p 113 Materials heat resistance

thermal properties data-Dec,

Mechanical tubing-Sept, p 121 Steel forgings, A guide to-Apr, Titanium and its alloys-Oct, p

123 Wrought aluminum and its alloys

—June, p 117
Van Tilburg, R. W., Fluid amplifier
—May, p 108

West, Philip.

est, Prinip, Coatings and finishes for alumi-num, New—Apr, p 112 Elastomeric sealants—Where and how to use them—Feb, p 87 Electroplated coatings—Mar, p

127
Fluorocarbon coatings resist corrosion, heat and friction—
Sept, p 112
Materials for deep submergence vessels—Where do we stand?
—Sept, p 99
Metal fabrics for high temperatures—Feb, p 102
Polyethylene coatings for metals
—Feb, p 92
Refractory metals can be plated

Refractory metals can be plated and electroformed—July, p 93 Whisker composites: Where do they stand today?—June, p

112 ood, William W., High energy rate forming of sheet metals—Aug, p

Zapolsik, B., Portable phonograph cabinet—May, p 126